

## Vapor Compressor Driven Hybrid Two-Phase Loop, Phase I

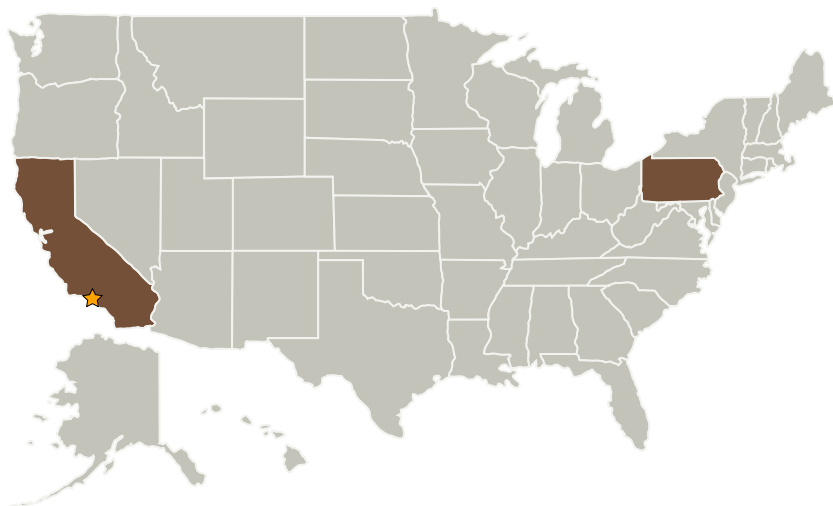
Completed Technology Project (2007 - 2007)



## Project Introduction

This Small Business Innovation Research Phase I project will demonstrate a vapor compressor driven hybrid two-phase loop technology. The hybrid two-phase loop technology incorporates an advanced evaporator design that is capable of passive separation of liquid and vapor phases at high heat flux conditions. Combining the hybrid two-phase loop technology with a vapor compressor increases the technology's operating range. The integral phase separation feature in the evaporator greatly improves the vapor compressor performance and reliability by preventing two-phase flows in the compressor. The proposed technology is particularly suited for the lunar surface systems where the cooling system size, mass, reliability and operation under widely varying environmental conditions are critically important.

## Primary U.S. Work Locations and Key Partners



Organizations Performing Work	Role	Type	Location
★ Jet Propulsion Laboratory(JPL)	Lead Organization	NASA Center	Pasadena, California
Advanced Cooling Technologies, Inc.	Supporting Organization	Industry	Lancaster, Pennsylvania



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## Organizational Responsibility

**Responsible Mission Directorate:**

Space Technology Mission Directorate (STMD)

**Lead Center / Facility:**

Jet Propulsion Laboratory (JPL)

**Responsible Program:**

Small Business Innovation Research/Small Business Tech Transfer

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## Primary U.S. Work Locations

California

Pennsylvania

## Project Management

### Program Director:

Jason L Kessler

### Program Manager:

Carlos Torrez

## Technology Areas

### Primary:

- TX01 Propulsion Systems
  - └ TX01.1 Chemical Space Propulsion
    - └ TX01.1.5 Hybrids